UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

18 DEC 2006

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Dear Ms. Casey and Mr. Keith:

RE: Interstate 29/35 Paseo Bridge Corridor Final Environmental Impact Statement

In accordance with our responsibilities under Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the Environmental Protection Agency (EPA) has reviewed the above referenced Final Environmental Impact Statement (FEIS). This FEIS was assigned a Council on Environmental Quality (CEQ) file number 20060473.

EPA's comments on the FEIS are focused on Mobile Source Air Toxics (MSATs). The following clarifying information is provided to assist in the preparation of the Record of Decision and to help inform the design team (contractor) on specific MSAT considerations. Depending on the proximity of human receptors to the final designs (alignments and interchange features), and in consideration of adjacent stationary sources, further investigation of MSAT impacts may be warranted. Spatial mapping of regulated air sources is provided as an enclosure. Finer map resolution can be provided as the design-build process moves forward.

1. **Summary of Impacts, Exhibit S-2b**, indicates that there are "0" Carbon Monoxide (CO) exceedances, however, this should have been reported as "not required" per the narrative on page III-8.

2. **Dispersion, page III-5**: EPA's CALINE3, CAL3QHC, and CAL3QHCR air dispersion models are approved mobile models in 40 CFR Part 51, Appendix W (Guideline on Air Quality Models), (see Federal Register/Vol. 70, No. 216, Wednesday, November 9, 2005, 68235). These models are routinely used to model mobile sources. Air dispersion modeling could be undertaken to predict concentrations for each alternative.

3. **Chapter III, Section B.1.a (page 5).** Although Mobile 6.2 is typically used to calculate emission factors for regional emission inventory development, the model has tools that can estimate emissions at a project, and also at roadway link level. Also, the use of local data when running Mobile 6.2 can greatly improve the characterization of the magnitude and distribution of air toxic emissions at a project level.

4. **Chapter III, Section B.1.a (page 6),** Although there are uncertainties associated with any estimates of toxicity, scientific and health communities have broad agreement on the toxicity and adverse health impacts associated with many MSATs. Such information is routinely used by government, industry, and academia to make regulatory and non-regulatory decisions.

5. **Chapter III, Section B.1.a (page 6),** The summary of existing credible scientific evidence includes toxicological information on MSATs that are available on EPA's Integrated Risk Information System (IRIS) database and other EPA recognized sources of toxicological information. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database Weight of Evidence Characterization summaries. This information represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

> ***Benzene*** *is characterized as a known human carcinogen.*
> ***Acrolein's*** *potential carcinogenicity cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.*
> ***Formaldehyde*** *is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.*
> ***1,3-butadiene*** *is characterized as carcinogenic to humans by inhalation.*
> ***Acetaldehyde*** *is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.*
> ***Diesel exhaust*** *(DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.*
> ***Diesel exhaust*** *also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis.*

6. **Chapter III, Section B.1.b (page 8).** The second paragraph indicates that additional travel lanes will have the effect of moving some traffic closer to nearby homes, schools, and businesses. There are a number of studies that have found a positive relationship between proximity to highways and certain health issues and that concentrations of mobile source air pollutants are more concentrated near highways (see enclosed bibliography). EPA recommends that

involvement with residential communities be continued to gain additional information on sensitive receptors (e.g., children, elderly, chronically ill) within the project area.

If you have any questions about these comments, please contact me at (913) 551-7148.

Sincerely,

Joseph Cothern
NEPA Team Leader
Environmental Services Division

BIBLIOGRAPHY: ENVIRONMENTAL HEALTH STUDIES NEAR ROADWAYS
April 2003

Brauer, M.; Hoek, G.; Van Vliet, P.; et al. (2002) Air pollution from traffic and the development of respiratory infections and asthmatic and allergic symptoms in children. Am J Respir Crit Care Med 166(8): 1092-8.

Bunn, H.J.; Dinsdale, D.; Smith, T.; Grigg, J. (2001) Ultrafine particles in alveolar macrophages from normal children, Thorax 56: 932-934.

Crosignani P; Tittarelli A; Borgini AjCodazzi T; Rovelli A; Porro E; Contiero P; Bianchi N; Tagliabue G; Fissi R; Rossitto F; Berrino F. "Childhood Leukemia and Road Traffic: A Population-Based Case- Control Study." International Journal of Cancer, 2004,V108, N4 (FEB10), P 596-599 2004-02-10.

Delfino, R.J. (2002) Epidemiologic evidence for asthma and exposure to air toxics: linkages between occupational, indoor, and community air pollution research. Env Health Perspect 110 (Supp 4): 573-589.

English, P.; Neutra, R.; Scalf, R; et al. (1999) Examining associations between childhood asthma and traffic flow using a geographic information system. Env Health Perspect 107(9): 761-767.

Feychting, M.; Svensson, D.; Ahlbom A. (1997) Exposure to motor vehicle exhaust and childhood cancer. Scand. J. Work Environ. Health 24: 8-11.

Fischer, PH; Hoek, G.; van Reeuwijk, H.; et al. (2000) Traffic-related differences in outdoor and indoor concentrations of particles and volatile organic compounds in Amsterdam. Atmos Environ 34: 3713-3722.

Harrison, R.M.; Leung, P.L.; Somervaille, L. (1999) Analysis of incidence of childhood cancer in the West Midlands of the United Kingdom in relation to proximity of main roads and petrol stations. Occupational and Environmental Medicine 56: 774-780.

Hoek, G; Brunekreef, B; Goldbohm, S; et al. 2002) Association between mortality and indicators of traffic-related air pollution in the Netherlands: a cohort study. Lancet 360 (9341):1203-1209.

Janssen, N.A.H.; Schwartz, J; Zanobetti, A.; et al. (2002) Air conditioning and source-specific particles as modifiers of PM10 on hospital admissions for heart and lung disease. Env Health Perspect 110(1): 43-49.

Langholz, B.; Ebi, K.L; Thomas, D.C.; et al. (2002) Traffic density and the risk of childhood leukemia in a Los Angeles case-control study. Ann Epidemiol 12(7): 482-7.

Pearson, R.L.; Wachtel, H.; and Ebi K.L. (2000) Distance-weighted traffic density in proximity to a home is a risk factor for leukemia and other childhood cancers. J Air Waste Mgmt Assoc 50: 175-180.

Perera, F.P.; Rauh, V.; Tsai, W.Y.; et al. (2003) Effects of transplacental exposure to environmental pollutants on birth outcomes in a multiethnic population. Env Health Perspect 111(2): 201-205.

Raaschou-Nielsen, O.; Hertel, O.; Thomsen, B. L.; Olsen, Jorgen H. (2001) Air pollution from traffic at the residence of children with cancer. Am J Epidemiol 153(5): 433-443.

Ritz, B.; Yu, F.; Fruin, S.; et al. (2002) Ambient air pollution and risk of birth defects in southern California. Am J Epidemiol 155(1): 17-25.

Savitz, D.A.; Feingold, L. (1989) Association of childhood cancer with residential traffic density. Scand. J. Work Environ. Health 15: 360-363.

Schwartz, J.; Laden, F.; Zanobetti, A. (2002) The concentration-response relation between PM2.5 and daily deaths. Env Health Perspect 110(10): 1025-1029.

Skov, H.; Hansen, A.B.; Lorenzen, F.; et al. (2001) Benzene exposure and the effect of traffic pollution in Copenhagen, Denmark. Atmos Environ 35:2463-2471.

Wilhelm, M.; Ritz, B. (2003) Residential proximity to traffic and adverse birth outcomes in Los Angeles County, California, 1994-1996. Env Health Perspect 111: 207-216.

*Junfeng Zhang, *UMDNJ School of Public Health, Piscataway, NJ,* Personal and microenvironmental measurements of human exposures to multiple aldehydes in three distinct urban areas.

Judith Charles, *University of California, Davis* Exposure of tollbooth attendants to acrolein and other toxic carbonyls in the San Francisco Bay Area.

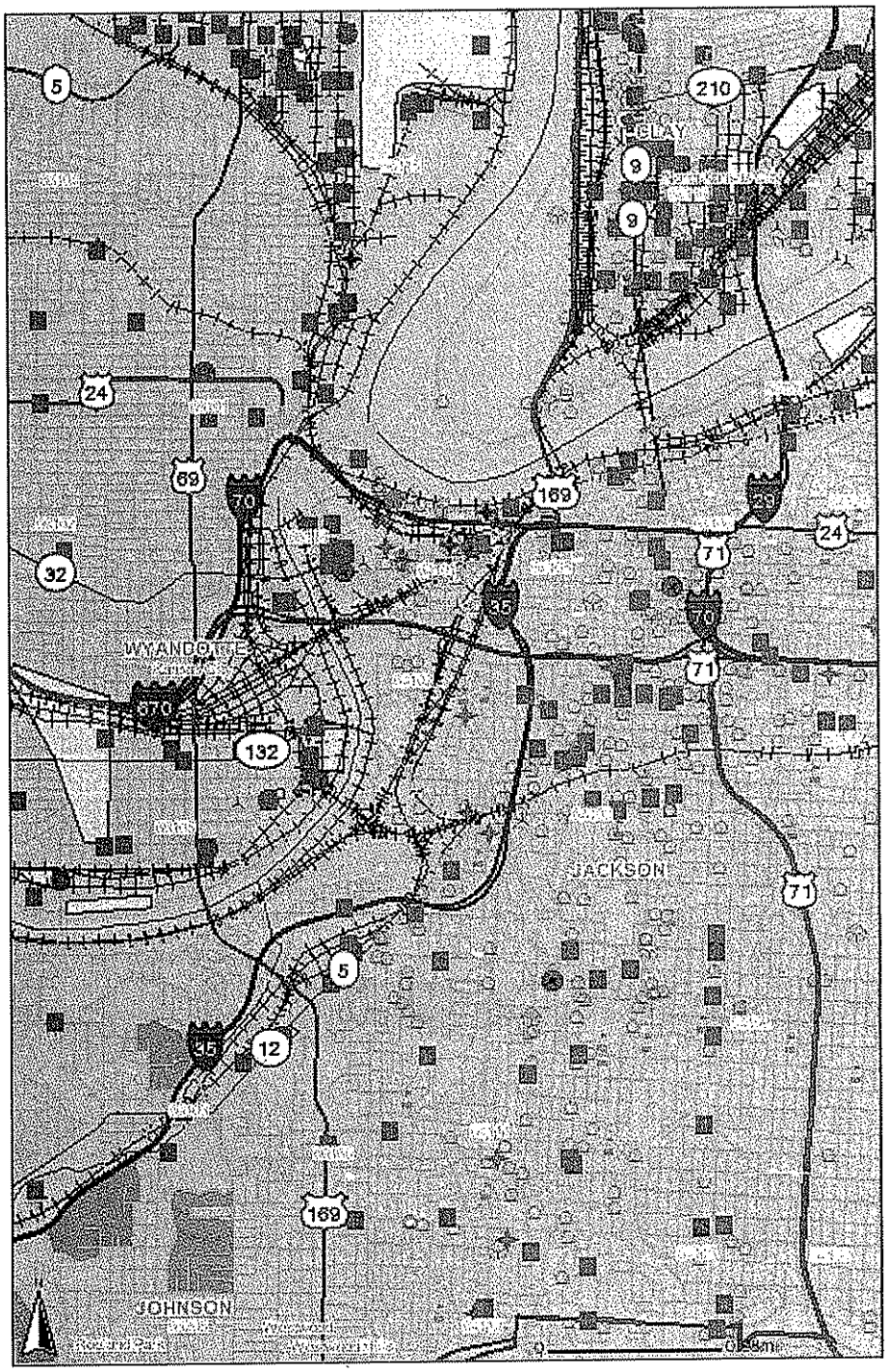
*James Schauer, *University of Wisconsin, Madison, WI,* Characterization of emissions and human exposure to metals emitted from motor vehicles.

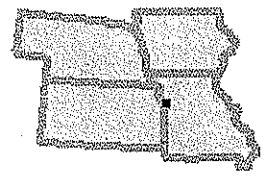
*Petros Koutrakis, *Harvard School of Public Health, Boston, MA*
Characterization of the particulate and gas exposures of sensitive sub-populations living in Eastern U.S. metropolitan areas.

James Schauer, *University of Wisconsin-Madison, Madison, WI,* Source apportionment and speciation of particulate matter for exposure and health studies.

Barbara Turpin, *Rutgers University, Piscataway, NJ,* Contributions of outdoor PM sources to indoor concentrations and personal exposures: A three city study.

I-35/I-29 South of River





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- Superfund
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- PWS Wells
- PWS Intakes
- Interstate Highways

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"Minorites" is a percentage of minority individuals relative to total population per block group. "Below Poverty" is the percentage of the total block group population with incomes below the poverty level in 1999. Block group geography and demographic data are based on the 2000 Census. This information depicts areas of concern where potential environmental and/or human health problems may disproportionately impact a population.
This information should not be used in comparison to previous EPA Region 7 Environmental Justice maps using 1990 data, as the data parameters have changed. The EPA Region 7 Environmental Justice Program has chosen to adopt the U.S. Census Bureau's parameters for poverty and race/ethnicity status in an effort to show a more accurate picture.

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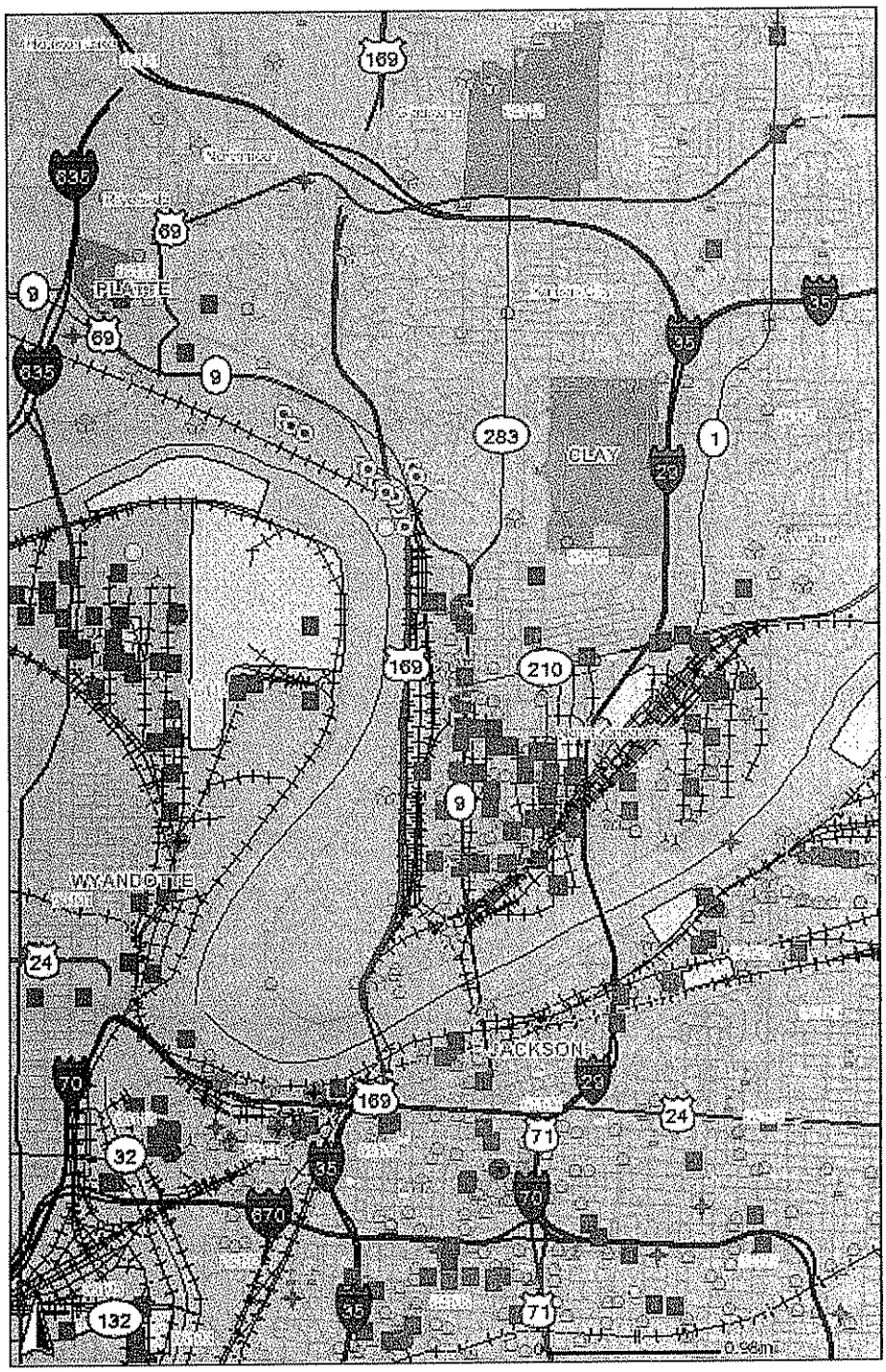
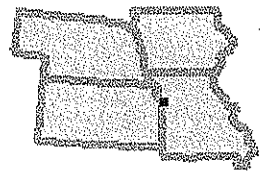
I-35/I29 North of River





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